USDA Price Indexes - 4-18-25 Update

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Introduction[1]

The National Agricultural Statistics Service (NASS) reports on the prices received and paid by farmers. NASS reports most of these on an index basis relative to some base year. These reported indexes make it easy to see how prices have changed over time. One advantage of using indexes is that the base year can be readjusted by some simple math. The purpose of this paper is to examine those common expense items paid by farmers to see how they have changed over time relative to several base years. In this paper, base years from one year ago, five years ago, and ten years ago are used. Using different base years helps give farmers different perspectives on price changes.

This study examines the broad expense categories of herbicides, fertilizer, fuel labor, machinery, repairs, and seeds in one graph and a second graph has a breakdown of the specific fertilizer types that NASS tracks; mixed, nitrogen, and potash and phosphate. A third graph has the expense categories: ag services, autos, feeder cattle, feed, feed grains, fungicides, insecticides, and rent. In addition, the CPI index is used as a reference (in the first graph). As defined by NASS, prices paid represent the average cost of inputs purchased by farmers. NASS uses a survey of 2,000 thousand producers and agribusinesses to obtain the reported prices. The responses are aggregated by regional and national levels using appropriate weights.

Methods

The NASS data is reported monthly and the graphs use a 3-month moving average (previous month, current month, future month) to help provide some smoothing to the figures. In each figure, the reported index is readjusted to set each expense item to zero. The base starting point however is not a moving average and is the actual reading for that beginning reference month. From that point forward, the NASS index value is readjusted to show the percent

increase from the base point. Because the base starting point is a single month reading and the values shown on the graph are moving averages, it is possible the starting point may not be exactly zero.

Because these indexes are based on survey data, there is some lag in reported values compared to what farmers are seeing for prices. Normally this would not be a concern. However, fertilizer prices and fuel prices can change rapidly. As a result, the fertilizer and fuel numbers may lag.

Results

Figures 1, 2, and 3 show the expense changes for the last year. Figure 1 has the major expense categories while Figure 2 has the fertilizer breakdown. Figure 3 has additional expense categories. Figures 4, 5, and 6 are based on changes from five years ago. Figures 7, 8, and 9 are based on changes from ten years ago. Each set of 3 figures is laid out similarly with the main expense categories, fertilizer, and then the other expense categories.

The main index page also includes the CPI index. The CPI index is used to represent inflation so input categories that are above the CPI index line indicate that an input category has increased in price faster than inflation (starting from the initial baseline).

The USDA price indexes are only updated monthly. As a result, the most recent data from Quickstats could be two months earlier than the current date of this publication.

Discussion

From a one-year perspective (Figures 1, 2, and 3), most expenses have increased less than the inflation rate (approximately 2%). The only expenses that have increased faster than inflation have been cattle and feeder cattle and ag services. Some expenses have actually decreased in the last year. Feed grains about 3% lower (but have increased since the fall) and fuels are 5% lower.

From a five-year perspective (Figures 4, 5, and 6), most of the major expenses categories have increased faster than inflation. Inflation over 5 years has caused overall prices to increase by 25%. Categories that have increased at less than the inflation rate are all in Figure 6.

From a ten-year perspective (Figures 7, 8, and 9), inflation has caused an average increase in prices of nearly 35%. Feeder cattle prices, which from a 1-year and 5-year perspective look expensive, fall back into the CPI rate of increase over 10 years.

Conclusions

This publication also shows how starting point biases can cloud the changes in expenses. It is important to review not only recent price increases but the long-term increases as well. Fertilizer and fuel both tend to be very volatile in cost. Often expenses look very discouraging over the short-term but when examined over a longer time horizon, the increase can appear less serious.

This perception also works the other way. Some expenses seem like they haven't increased very much short-term. However, when examined over a longer time horizon, they have gone up significantly.

Machinery is still the biggest expense category on farms. Unfortunately for farmers, machinery and machinery repairs are two of the expense categories that have increased the most over a 10-year horizon (only labor has increased faster). Cost control is one way for farmers to improve profitability. Thus, based on the last 10-years, farmers can help improve profitability by especially watching their machinery expenditures.

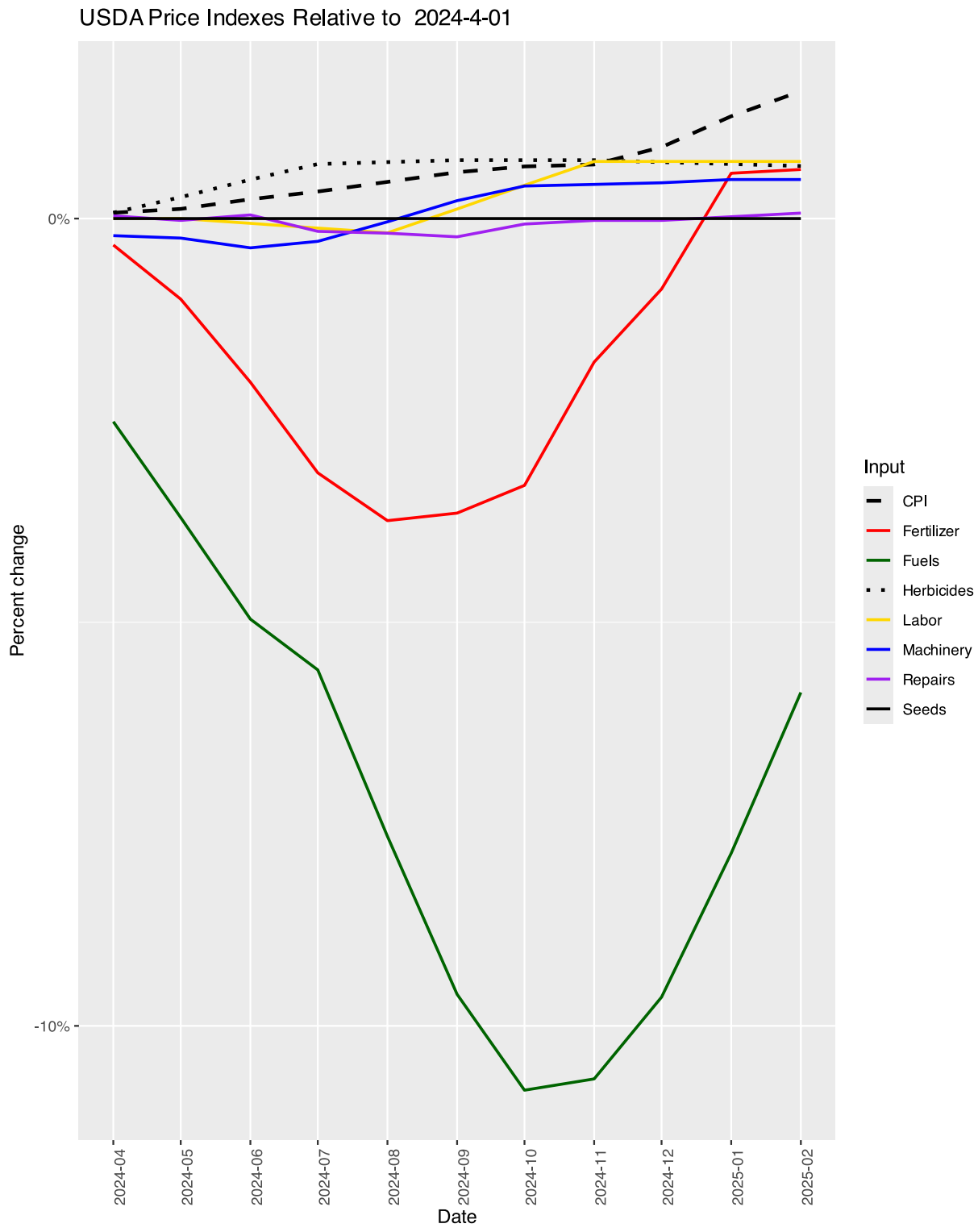

Figure 1. USDA Price Indexes Relative to 1 Year Ago - Main

Figure 2. USDA Price Indexes Relative to 1 Year Ago - Fertilizer

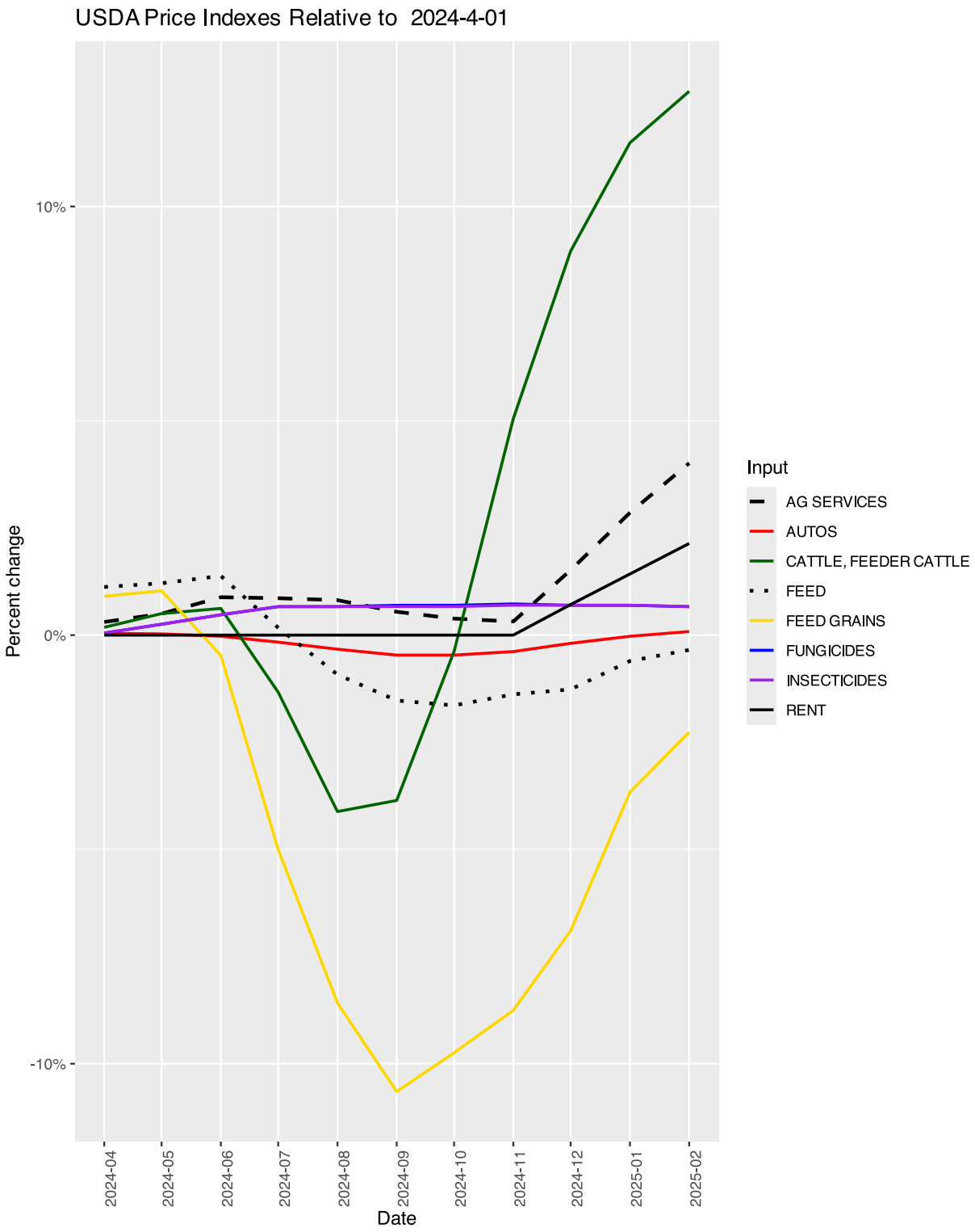

Figure 3. USDA Price Indexes Relative to 1 Year Ago - Other

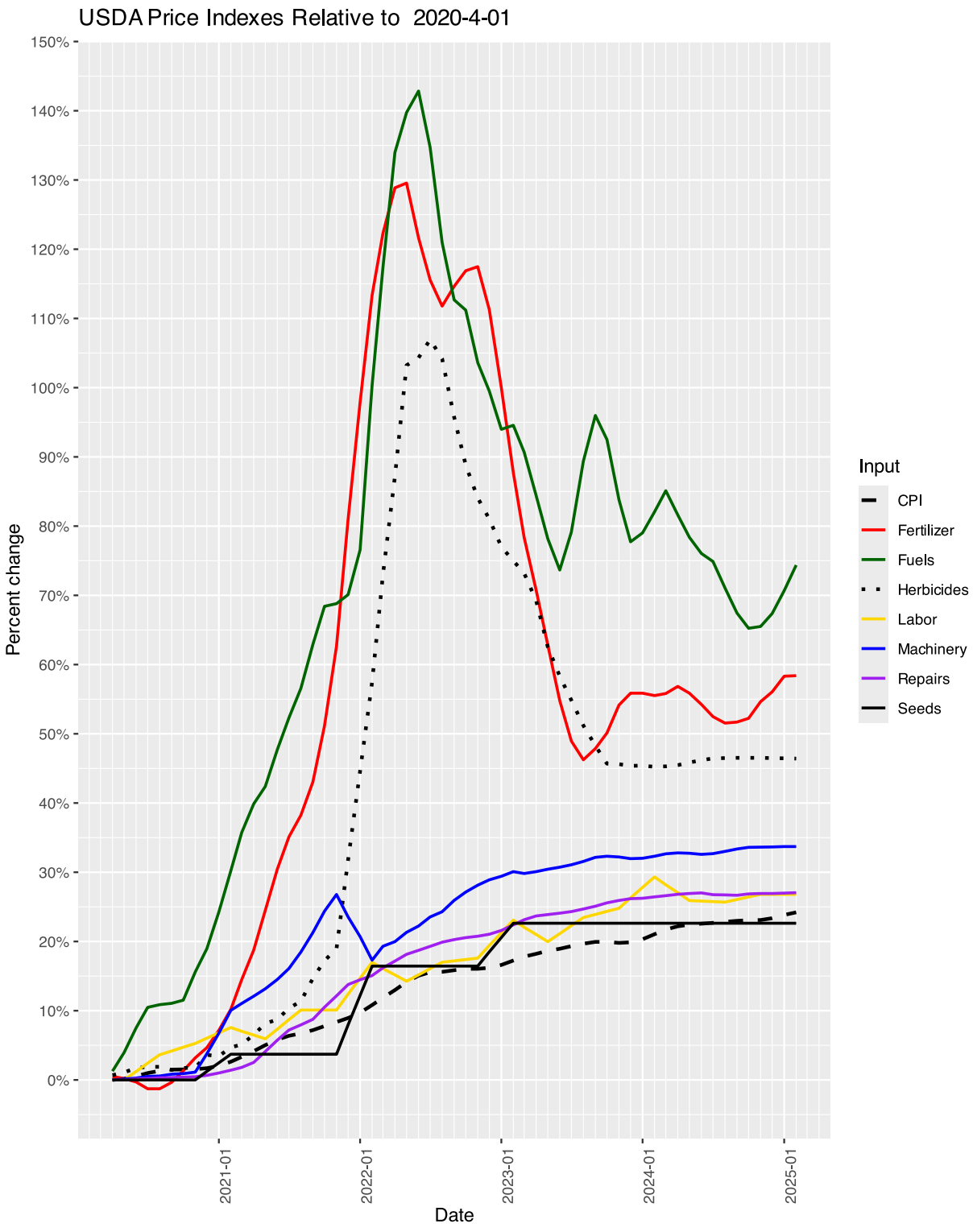

Figure 4. USDA Price Indexes Relative to 5 Year Ago - Main

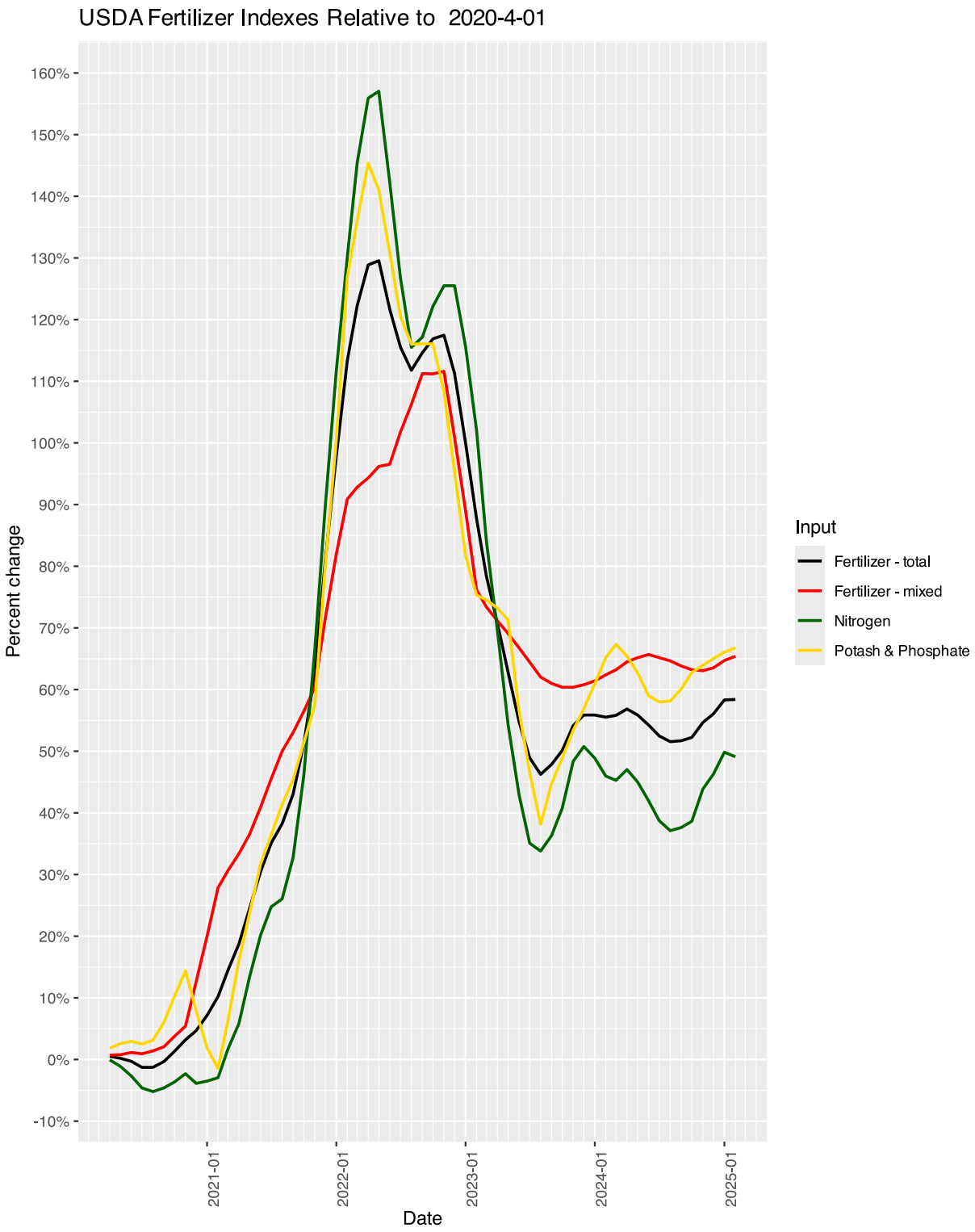

Figure 5. USDA Price Indexes Relative to 5 Year Ago - Fertilizer

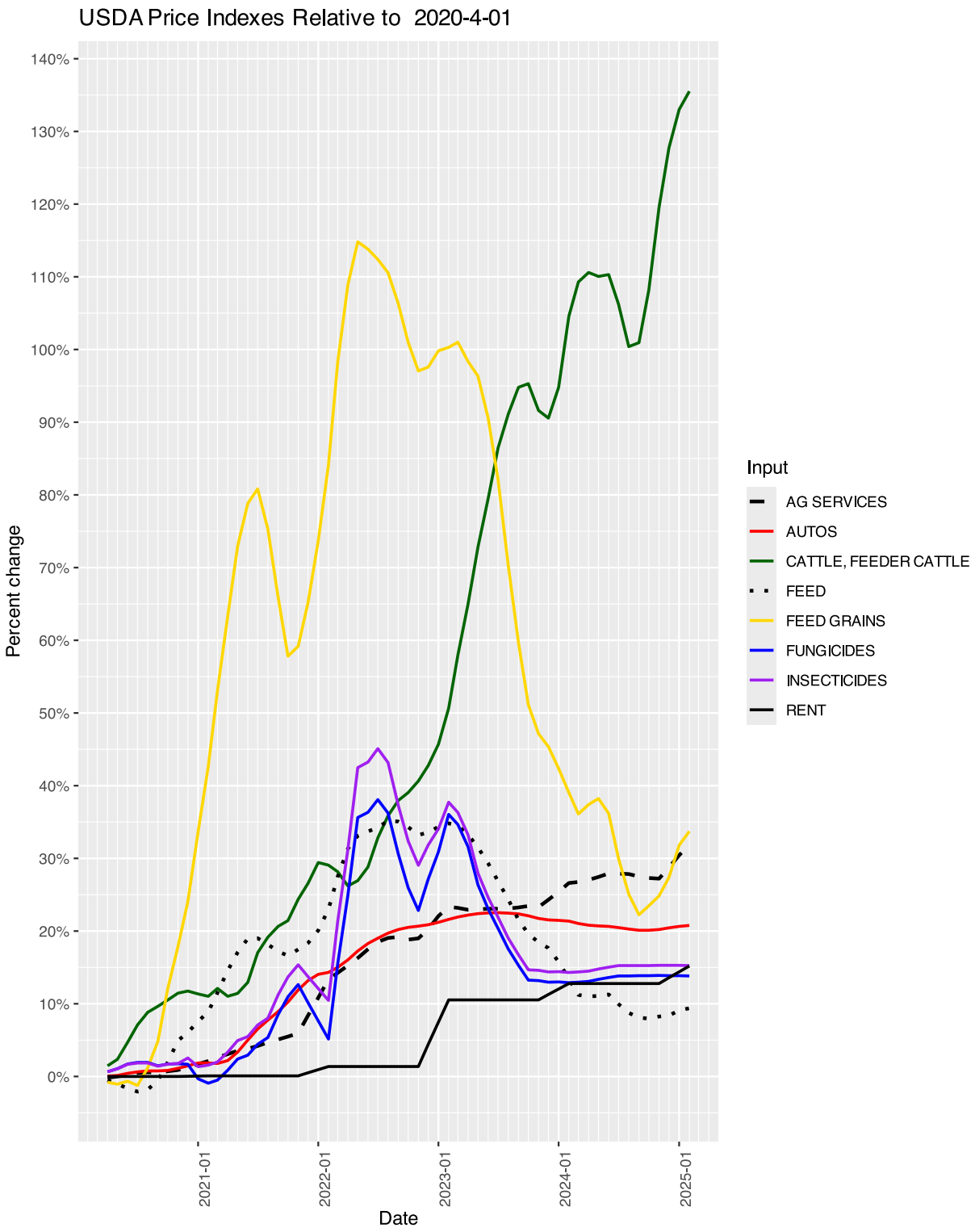

Figure 6. USDA Price Indexes Relative to 5 Year Ago - Other

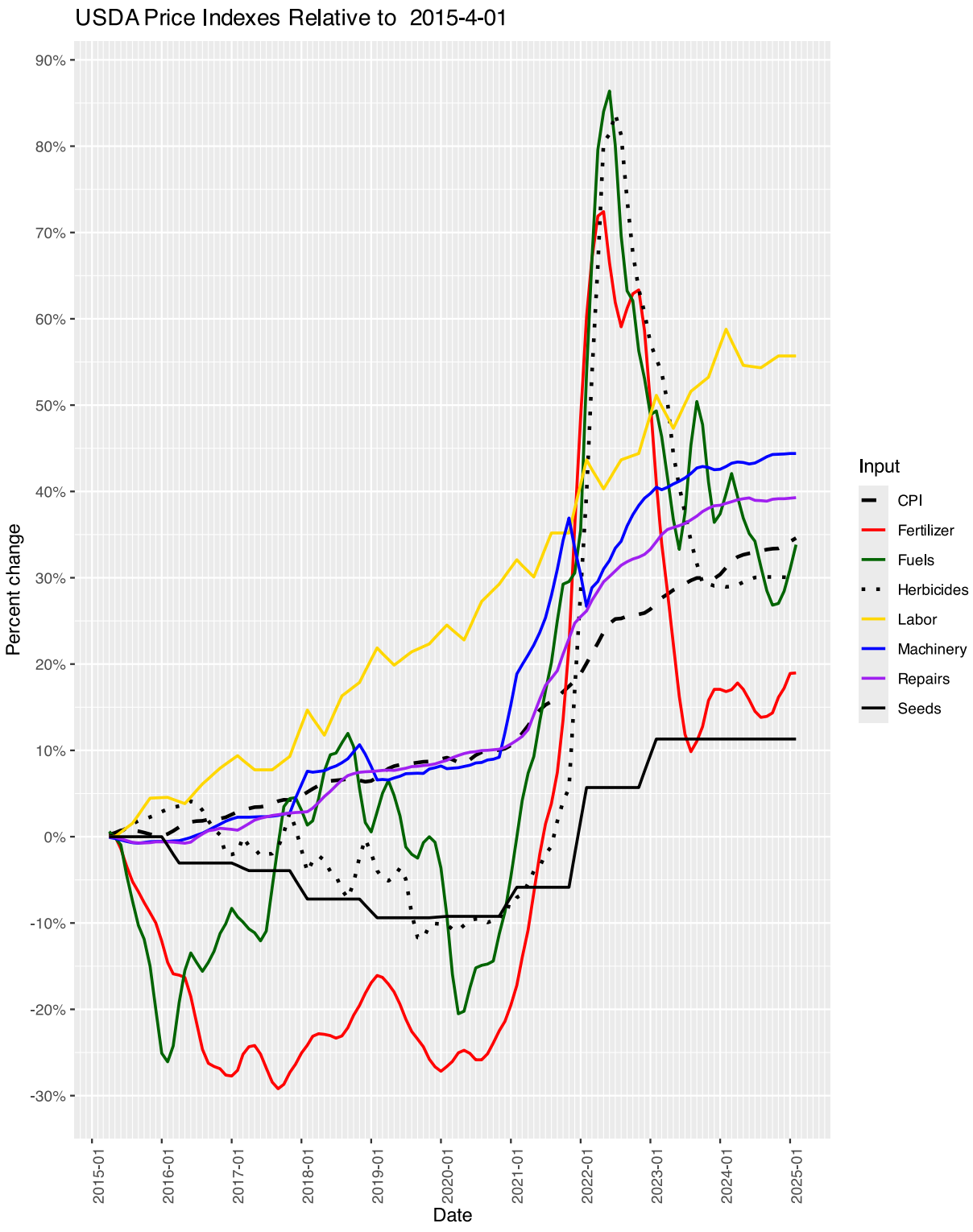

Figure 7. USDA Price Indexes Relative to 10 Year Ago - Main

Figure 8. USDA Price Indexes Relative to 10 Year Ago - Fertilizer

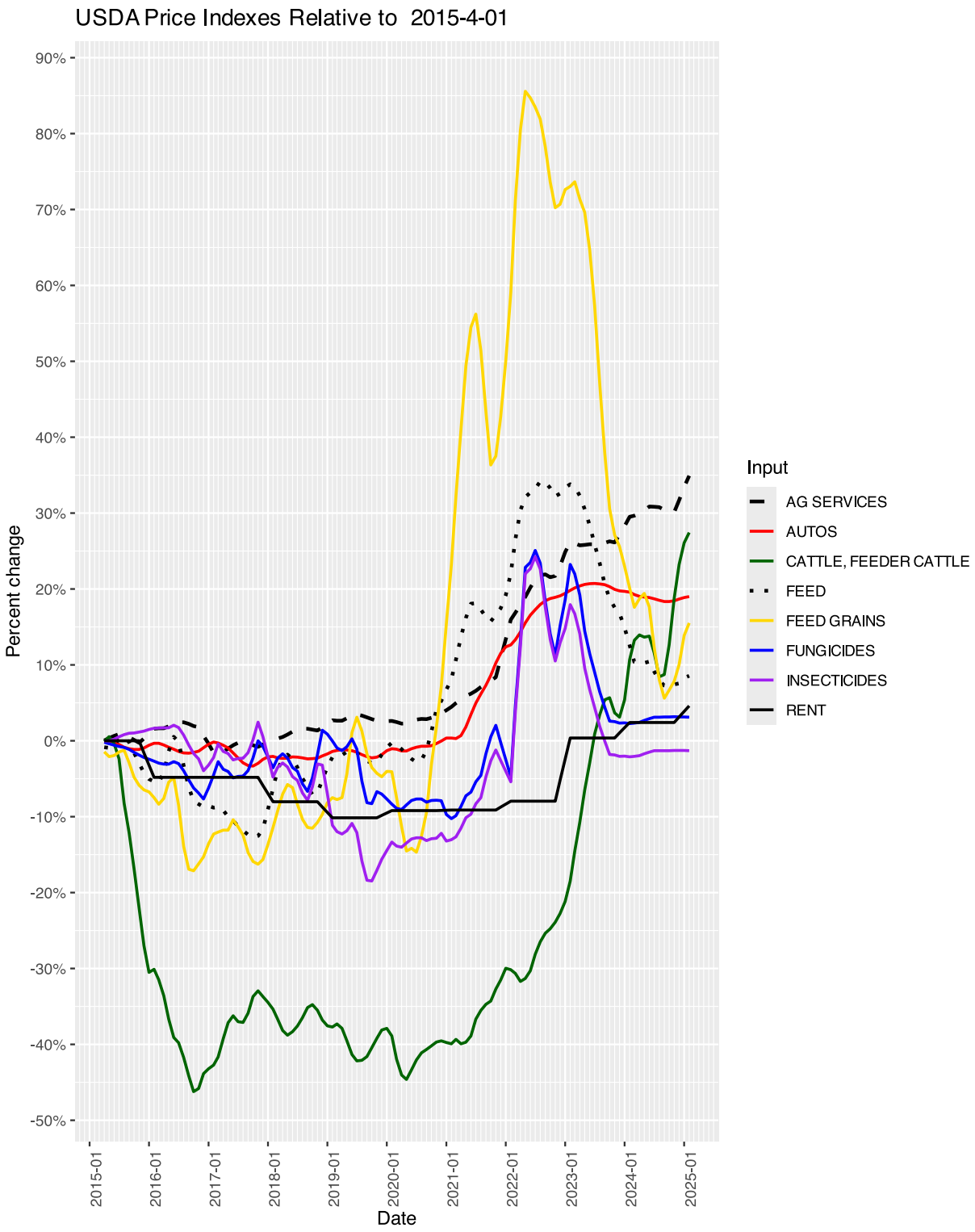

Figure 9. USDA Price Indexes Relative to 10 Year Ago - Other

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